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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,711	07/30/2003	Yuka Utsumi	503.34972CX2	5363

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EXAMINER	
PARKER, KENNETH	
ART UNIT	**PAPER NUMBER**
2871	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/629,711	UTSUMI ET AL.	
	Examiner	Art Unit	
	Kenneth A. Parker	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/31/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-18 and 21-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-5, 7-9, 11-13, 15-17, 21-23, 26-28, 30-32* is/are rejected.

7)☒ Claim(s) *6,10,14,18,25,29 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

Claims 3-5, 7-9, 11-13, 15-17, 21-23, 26-28, 30-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa in view of 06222397.

In figure 24, Ogawa shows the red higher than the green higher than the blue for substantially all voltages over which the device has a linear response. Ogawa describes this as the standard device in a discussion of active matrix devices running from column 12, line 3-, to column 14. Note that the choice of what is construed as red, green or blue really doesn't matter, as can be seen from figure 9(a) and 9(b) that the brightness curves for a given voltage are smoothly changing, so the figure 24 relationships show for 450, 550 and 610 bgr should be substantially held, particularly for the blue side where the higher wavelength goes around the hump, so if the ratio is held for the figure 24 blue, it should certainly be held for the claimed blues of up to 490. Ogawa lacks the clear disclosure that the illumination system is backlight, however, as a backlight was the standard mode of illumination and well known for providing bright illumination for a TN cell such as Ogawa, one of ordinary skill would have found reason, motivation and suggestion to employ a backlight as it was the normal way to use a TN, and had the benefit of providing bright illumination.

So, the reference meets regarding claim 3 in the embodiment associated with figure 24 A liquid crystal display apparatus comprising: *a liquid crystal panel including a pair of polarizer*s 3a and 3b; and a back light provided at a back side of said liquid crystal

panels (not shown, but meet as modified above) wherein said liquid crystal panel is ' an active matrix type liquid *(fig 28, discussion column 14)* crystal panel enabling display in a double refraction mode, and has a characteristic of spectral transmittance required to satisfy the following equation (see discussion above), x > y > z, when a drive voltage is applied thereto so as to vary in the range of a minimum voltage required for a visual display on said liquid crystal panel to a maximum voltage,
where: "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a longest wavelength in the range of wavelengths designated for blue light illuminated from said light source, "y" is a value of the transmittance in said liquid crystal panel at a j wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for green light illuminated from said light source', and "z" is a value of the transmittance in said liquid crystal panel at a j wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for red light illuminated from said light source.

The reference discloses regarding claim 4, a liquid crystal display apparatus according to claim 3, wherein the range of wavelengths designated for blue light illuminated from said light source corresponds to 400 nm to 500 nm, the range of wavelengths designated for green light illuminated from said light source corresponds to 500 nm to 600 nm, and the range of wavelengths designated for red light illuminated from said light source corresponds to 600 nm to 700nm.

The reference meets regarding claim 7, a liquid crystal display apparatus comprising: a liquid crystal panel including a pair of polarizers 3a and 3b; and a back light (not shown, but meet as modified above) provided at a back side of said liquid crystal panel wherein said liquid crystal panel is an active matrix *(fig 28, discussion column 14)* type liquid crystal panel enabling display in a double refraction mode, and has a characteristic of spectral transmittance required to satisfy the following equation, x > y > z, when a drive voltage is applied thereto so as to vary from a dark state to a light state, j where: "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a longest wavelength in the range of wavelengths designated for blue light illuminated from said light source, "y" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for green light illuminated from said light source; and "z" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for red light illuminated from said light source.

The reference meets regarding claim 8, a liquid crystal display apparatus according to claim 7, wherein the range of wavelengths designated for blue light illuminated from said light source corresponds to 400 nm to 500 nm, the range of wavelengths designated for green light illuminated from said light source corresponds to 500 nm to

600 nm, and the range of wavelengths designated for red light illuminated from said light source corresponds to 600 nm to 700nm as discussed above.

The reference meets regarding claim 11, a liquid crystal display apparatus comprising: a liquid crystal panel including a pair of polarizers 3a and 3b; and a back light (not shown, but meet as modified above) provided at a back side of said liquid crystal panel, crystal panel enabling display in a double refraction mode, and has a characteristic of spectral transmittance required to satisfy the following equation, x > z, when a drive voltage is applied thereto so as to vary in the range of a minimum voltage required for a visual display on said liquid crystal panel to a maximum voltage, where: wherein said liquid crystal panel is ' an active matrix *(fig 28, discussion column 14)* type liquid "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a longest wavelength in the range of wavelengths designated for blue light illuminated from said light source, and "z" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for red light illuminated from said light source.

The reference meets regarding claim 12, a liquid crystal display apparatus according to claim 11, wherein the range of wavelengths designated for blue light illuminated from said light source corresponds to 400 nm to 500 nm, and the range of wavelengths

designated for red light illuminated from said light source corresponds to 600 nm to 700nm as discussed above.

The reference meets regarding claim 15, a liquid crystal display apparatus comprising: a liquid crystal panel including a pair of polarizers 3a and 3b; and a back light (not shown, but meet as modified above) provided at a back side of said liquid crystal panel wherein said liquid crystal panel is ' an active matrix type liquid crystal panel *(fig 28, discussion column 14)* enabling display in a double refraction mode, and has a characteristic of spectral transmittance required to satisfy the following equation, $x > z$, when a drive voltage is applied thereto so as to vary from a dark state to a light state, where: "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a longest wavelength in the range of wavelengths designated for blue light illuminated from said light source', and "z" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for red light illuminated from said light source.

The reference meets regarding claim 16, a liquid crystal display apparatus according to claim 15, wherein the range of wavelengths designated for blue light illuminated from said light source corresponds to 400 nm to 500 nm, and the range of wavelengths designated for red light illuminated from said light source corresponds to 600 nm to 700nm.

The reference meets regarding claim 21, a liquid crystal display apparatus comprising: a liquid crystal panel including a pair of polarizers 3a and 3b, and a back light (not shown, but meet as modified above) provided at a back side of said liquid crystal panel; wherein said liquid crystal panel is an active matrix type liquid crystal panel *(fig 28, discussion column 14)* enabling display in a double refraction mode, and has a characteristic of spectral transmittance required to satisfy the following equation, x > y > z, when a drive voltage is applied thereto so as to vary from a dark state to a light state, where: "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to one of 490nm and 500nm; "y" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to 545nm', and "z" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to 630nm.

The reference meets regarding claim 22, a liquid crystal display apparatus according to claim 21 , wherein "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to 490nm.

The reference meets regarding claim 23, a liquid crystal display apparatus according to claim 21, wherein "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to 500nm.

The reference meets regarding claim 26, a liquid crystal display apparatus comprising: a liquid crystal panel including a pair of polarizers 3a and 3b, and a back light (not shown, but meet as modified above) provided at a back side of said liquid crystal panel; wherein said liquid crystal panel is an active matrix type liquid crystal panel *(fig 28, discussion column 14)*, and has a characteristic of spectral transmittance required to satisfy the following equation, x > y > z, when a drive voltage is applied thereto so as to vary from a dark state to a light state, where: "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a longest wavelength in the range of wavelengths designated for blue light illuminated from said light source, "y" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for green light illuminated from said light source', and "Z" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for red light illuminated from said light source.

The reference meets regarding claim 27, a liquid crystal display apparatus according to claim 26, wherein the range of wavelengths designated for blue light illuminated from said light source corresponds to 400 nm to 500 nm, the range of wavelengths designated for green light illuminated from said light source corresponds to 500 nm to 600 nm, and the range of wavelengths designated for red light illuminated from said light source corresponds to 600 nm to 700nm as discussed above.

The reference meets regarding claim 30, a liquid crystal display apparatus comprising: a liquid crystal panel including a pair of polarizers 3a and 3b, and a back light (not shown, but meet as modified above) provided at a back side of said liquid crystal panel; wherein said liquid crystal panel is an active matrix type liquid crystal panel *(fig 28, discussion column 14)*, and has a characteristic of spectral transmittance required to satisfy the following equation, x > y > z, when a drive voltage is applied thereto so as to vary from a dark state to a light state, where: "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to one of 490nm and 500nm; "y" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to 545nm', and "z" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to 630nm.

The reference meets regarding claim 31, a liquid crystal display apparatus according to claim 30, wherein "x" is a value of the transmittance in said liquid crystal panel corresponds to 490nm as discussed above.

The reference meets regarding claim 32, a liquid crystal display apparatus according to claim 30, wherein "x" is a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to 500nm as discussed above.

Regarding claims 5,9,13, 17,.24,28, 33, the reference lacks a birefringent film arranged between a polarizer and a substrate. It was well established at the time that birefringent films place between the substrate and a polarizer can be used to compensate for change in birefringence with angle and improve off axis viewing (along with providing numerous other compensation function), and therefore one of ordinary skill would have found reason, motivation and suggestion to employ a birefringent film was as well known for improving off axis viewing.

Allowable Subject Matter

Claims 6, 10, 14, 18,25,29 and 34 have the feature of a plurality of electrodes provided on at least one of said pair of substrates in said liquid crystal panel to produce an electric field substantially in parallel with surfaces of said pair of substrates. The language invovling "so as to vary from a dark state to a light state" is understood to mean from black to white and in between. As admitted by applicant in the specification, the prior art IPS cells did have this for low transmission levels (and certainly some of those of the thinner cells from the Baur references and from Kondo et al 5598285 and its priority document.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 571-272-2298. The examiner can normally be reached on M-F 10:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kenneth A Parker
Primary Examiner
Art Unit 2871